ABSTRACT

The invention provides a method of treating diabetes in a subject, comprising administering to the diabetic subject an immunotoxin, thereby reducing the subject's T-cell population, and administering to the subject pancreatic islet cells from a donor.

The immune tolerance inducing treatment regimen, used optionally with adjunct immunosuppressive agents, prevents pancreatic islet cell rejection while maintaining long term islet cell function following xenogeneic and allogeneic pancreatic islet cell transplantation. Thus, the methods of the present invention provide a means for treating diabetes, wherein the need for exogenous insulin or immunosuppressive agents is decreased or eliminated. Also provided is a method of inhibiting a rejection response of a transplant recipient, comprising administering an immunotoxin during the peritransplant period, thereby transiently reducing the number of T-cell lymphocytes and promoting long-term survival of the transplant.